Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-20 (cancelled).

Claim 21 (new): a structural element (10) comprising a plurality of body segments (11) of a foamed, thermoplastic material that are arranged next to each other and joined together on a plane, wherein the structural element (10) is made wholly of plastic and the body segments (11) are welded together at abutting side faces forming weld seams (12, 13), whereby the weld seams (12, 13) form a substantially pore-free intermediate plastic layer in the form of a network of stiffening struts.

Claim 22 (new): A structural element according to claim 21, wherein the body segments are made of a closed-cell foam material.

Claim 23 (new): A structural element according to claim 22, wherein the thermoplastic material is polyethylene-terephthalate (PET) or styrene/acrylnitrile-copolymer (SAN).

Claim 24 (new): A structural element according to claim 21, wherein the weld seams comprises melted plastic of the body segments (11).

Claim 25 (new): A structural element according to claim 24, wherein of the weld seams (12, 13) have a thickness such that a

network-like strut structure is formed by the weld seams which increases the compressive strength of the structural element (10) with respect to surface pressure.

Claim 26 (new): A structural element according to claim 21, wherein the body segments (11) are formed from lengths cut from rod-shaped or column-shaped foam bodies (7).

Claim 27 (new): A structural element according to claim 26, wherein the rod-shaped or column-shaped foam bodies (7) are formed by means of extrusion, and the direction of extrusion in the body segments (11) manufactured from the foam bodies (7) lies substantially parallel to a line of intersection of two crossing weld seam (12, 13).

Claim 28 (new): A structural element according to claim 27, wherein the body segments (11) comprises a stretched polymer structure in a direction of extrusion.

Claim 29 (new): A structural element according to claim 21, wherein the body segments (11) have a cross-section which enables the body segments to be fitted together without interruption.

Claim 30 (new): A structural element according to claim 21, wherein the body segments (11) have a polygonal shape.

Claim 31 (new): A structural element according to claim 21, wherein the structural element (10) is a plastic sheet.

Claim 32 (new): A process for manufacturing a structural element (10) comprising a plurality of body segments (11) arranged

adjacent to one another in a plane and interconnected comprising the following steps:

a) manufacture of closed-cell rod-shaped or column-shaped foamed plastic bodies (7) having long sides;

b) welding together the long sides of the rod-shaped or column-shaped foamed bodies (7) into a plastic block (5) thus creating weld seams (32, 33) over a face, whereby the said weld seams (32, 33) are present as substantially pore-free intermediate plastic layers to form a block of foamed plastic; and

c) dividing the block (5) of foamed plastic into individual structural elements (30) comprising foam sheets, running transverse or perpendicular to the longitudinal direction of the rod-shaped foam bodies (7),

whereby the weld seams (32, 33), as viewed in plan view of the structural element (30), form a network like structure of struts.

Claim 33 (new): A process according to claim 32, comprising the step of manufacturing the rod-shaped or column-shaped foam bodies (7) by an extrusion process.

Claim 34 (new): A process according to claim 33, wherein the rod-shaped or column-shaped foam bodies (7) are manufactured using a polymer chain structure that is stretched in the direction of extrusion.

Claim 35 (new): A process according to claim 32, wherein the weld seam is formed by melting the faces of the sides of the body segments (11) to be joined and subsequently fitting the faces together and solidifying them.

Claim 36 (new): A process according to claim 35, including providing means for controlling the melting process during welding to enable weld seams (12, 13) of a specific thickness range to be produced such that the network strut structure of weld seams (12, 13) increases the compressive strength of the structural element (10) with respect to surface pressures.

Claim 37 (new): A process according to claim 32, wherein structural element (10) is of a thermoplastic material and the welding of the body segments (11) is a thermoplastic welding process.

Claim 38 (new): A process according to claims 32, including providing the structural component (1) with an outer layer (2) deposited on at least one surface of the structural element (10).

Claim 39 (new): A process according to claim 38, the structural component (1) forms a core layer which is a sandwich type composite element with outer layers (2, 3) on both sides of the core layer.